Septic Care To Live By

YES

LOCATE, INSPECT, PUMP & PROTECT

Know where your septic is!
Find as-built or map all septic parts.

Inspect system (+ tank levels) regularly.

Pump tank as needed.
Average 3-5 years, or when solids fill over 35% of tank.

Use water wisely–reduce risk of water overloads. Spread out laundry loads, showers, dishwasher.

Go easy on the garbage disposal. Adds solids and grease you'll eventually pay to pump out.

Keep all vehicles, boats, livestock, and heavy equipment off tank & drainfield areas.

Grow something over the drainfield. Grass or other shallow-rooted plants needing little water or fertilizer–*that's what the drainfield's getting rid of!*

Keep water away from drainfield:
☑ surface runoff (from roofs, streets, driveways, neighboring property) ☑ sprinklers (at least 10 feet from system's edge) ☑ draining water softeners or hot tubs.

Keep tank lids easily accessible–get *risers!*

Keep accurate, detailed records: Inspections, pump-outs, repairs, servicing professionals, dates–and pass along to new tenant or owners.

NO!

DON'T PUT ANYTHING ELSE DOWN DRAINS.

No matter *how* much water chases it. That means ...

No flushing trash–or any solids *except your own!* The toilet's not a wastebasket. THAT means ...
NO ☒ diapers ☒ cigarette butts ☒ coffee grounds ☒ tampons/napkins/condoms ☒ oils/grease ☒ bones ☒ plastics ☒ kitty litter ☒ hair ☒ & no other papers except TP.

No pouring strong chemicals down drains.
Kills septic critters + contaminates surface water or groundwater. NO ☒ toxic or hazardous cleaning products ☒ solvents/thinners/paints ☒ motor oil ☒ antifreeze ☒ pesticides ☒ excessive bleach ☒ medications (like antibiotics) or anti-bacterial products ("anti" = *kills microbial critters!*).

Do not use or install sprinklers within 10 ft of drainfield.

DO NOT DISTURB drainfield or reserve area:
NO ☒ building *(compacts soil)* ☒ covering *(holds moisture, cuts oxygen)* ☒ grading, leveling, filling ☒ working the soil ☒ sheds, porches, sports courts, mulches–you name it ☒ No planting trees, shrubs *(deep roots)* or *vegetable garden* over drainfield.

Do not drain or backwash water softeners or conditioners into system.

***Please* don't use tank additives or "miracle" system cleaners.** You want to *keep* solids in the tank, not busted up and floating out to drainfield.

We're here to help!

Call or visit the Lewis & Clark City-County Health Department to find out more about septic maintenance or the new inspection guidelines for the SEPTIC SYSTEM MAINTENANCE PROGRAM.

Remember to inspect your system regularly, pump tank when needed, protect all parts–*including the soil*, and go easy on the water!

L&C Co. Health Dept. Billboard
Helena, Spring 2010

LEWIS & CLARK CITY-COUNTY
Health Department

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WATER POLICY INTERIM COMMITTEE
MAY 12, 2010
EXHIBIT 4

Where it is? How to take care of it? How to keep raw sewage from coming up your drains? How a failed septic can contaminate your drinking water—and cost up to *$20,000* to replace?

You are not alone, and may be one of thousands of rural residents in Lewis & Clark County who ARE on a septic and DON'T know the answers to these questions. But what you don't know about your septic system could come back to haunt you—as raw sewage backing up your drains, or in high costs to fix or replace it.

Your Very Own Backyard Sewage Treatment Plant!

A septic system is your very own sewage treatment plant buried in the backyard. You are now the sewage-plant operator, arguably the most important part of the system.

Septics allow us to build and live outside city limits in the absence of city sewer lines and hookups to a centralized wastewater treatment plant. As many as 10,000 septic systems service Lewis & Clark County–at least 6,000 in the Helena Valley alone–with new ones going in every year. Designed to move, store, treat, and dispose of wastewater on or near the property where it originates (on-site), with sensible use and simple, routine maintenance, septics can be a highly effective, long-term wastewater treatment system.

Yet, quietly overlooked, too often ignored and neglected, our backyard sewage treatment plants generally have a higher rate of failure than anticipated because many folks just don't realize that routine maintenance is up to them. When's the last time you had yours inspected? Can you remember the last time you pumped? How about the neighbors' septics? The ongoing development in our county has had a cumulative effect on groundwater quality–and wells tap the same source.

The Environmental Protection Agency (EPA) found that the most successful way to ensure proper operation and extend the life of individual systems is implementing an effective maintenance program—protecting public health, preserving valuable water resources, and maintaining economic vitality in a community.

What is the Septic System Maintenance Program?

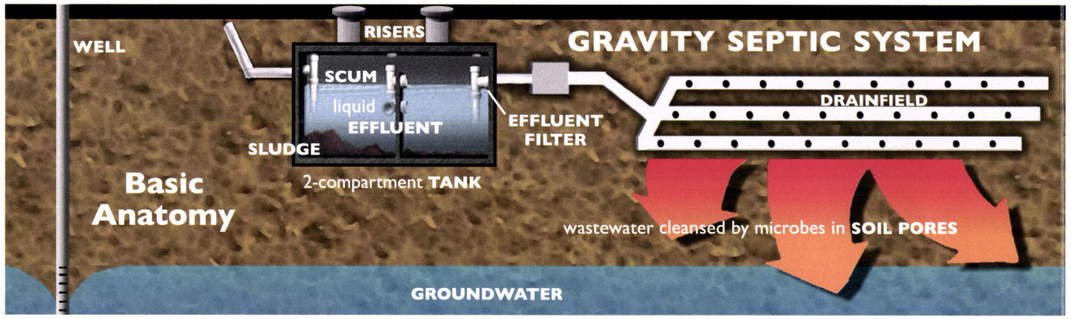
In Montana, here at the Lewis & Clark City-County Health Department we're rolling out just such a program this year, finalizing details following a public hearing in spring of 2010. As proposed, each homeowner in the county will need regular septic inspections at a frequency ranging from annually to every three years, determined by the type of system. Inspectors take measurements and report findings to the health department through a web-based system of record with continued public access. From the inspection report we can see what issues need to be addressed—maybe the system's failing, something's not working right, or it's just "full."

Each homeowner would choose and pay their own certified operation-and-maintenance professional to inspect the system and, if the tank needs pumping, hire a licensed septage hauler to pump it out. You don't need to pump until the tank's more than 35% full of solids—and likely not every time it's inspected

The Health Department will charge homeowners a reporting fee to administer the program—for tracking inspections, working to fix problems, training, and ongoing homeowner education.

Just like a car, how you "drive" and service your septic will help determine its life span. You want that septic to run smoothly for a long time, or you might have to repair or replace it—just like a car. And they're expensive!

Like Real Estate, the 3 most important factors regarding your septic are *Location, Location, Location.* As in, where it is, and *knowing* where it is!



How Septics Work

To understand what can go wrong, this is how it should go right: Everything down your drains ends up in the septic **tank**, where solid **sludge** settles out in 1 or 2 compartments. Lighter solids–toilet paper, grease and oils–float in a **scum** layer, and all liquid **effluent** flows out to perforated **drainfield** pipes to seep into the soil. Your waste is treated by microbial critters in the **soil pores** as it filters down to recharge the **groundwater**–*which feeds your well, your neighbors' wells, edible gardens, and our lakes and streams!* You want the soil to be a good filter.

When They *Don't* Work—& Why

Failed Again

It sounds rather harmless–failed–like maybe a bad grade on a test. But when your septic fails, it's foul, smelly, wet, dangerous, diseased–and ugly. It could be a cesspool in the yard, kids and pets tracking sewage through the house. Or sluggish, lazy drains. Gurgling, belching pipes. Evil guck backed up and rising out of drains, overflowing porcelain. Not a pretty picture.

PASSING PEACEFULLY: Then too, your on-site sewage treatment plant may have already expired without telling you. Without any nasty fanfare at all it may be failing to treat your waste before disposing of it–effluent running through sandy soil or fractured rock too quickly to cleanse before reaching the water table. Harder to detect, but quietly killing our clean water all the same.

A **septic failure** means you're discharging untreated wastewater to the ground, a waterway, or groundwater. Raw sewage, into our common source of drinking water. Although a drainfield will not fail immediately when a full tank's not pumped, by the time the system shows obvious signs of failure it's most likely damaged. You could be flushing next door, showering at Mom's, or moving out till it's fixed.

Nature recycles. It's your waste–it's our water!

Flooded, Clogged, Compacted

If soil could feel fear, this would be a soil pore's biggest nightmare: flooding, clogging, and compaction. If that's happening to your drainfield you will be visited by seepage, leakage, and failure. This is your sewage, coming back to haunt you.

Most commonly a septic fails when a portion of the system, or the soil itself, becomes clogged with waste solids–or the pores are otherwise crushed through compaction when driving, grazing, building or paving over the drainfield.

Solids often escape into the drainfield because the tank isn't pumped often enough. A tank full of solids is a tank overflowing–with solids. Or using too much water can stir up the tank with no time to settle out before shipping out to the drainfield–with solids. If soils can't absorb your waste, the drainfield will fill, fail, and go foul.

An **effluent filter** on the outlet baffle could stop most solids from busting loose–but your tank might not have one. Not too late! You can add a filter to almost any tank outlet. Cheap insurance. Very cheap. You definitely want that solid stuff to stay in the tank.

A saturated drainfield's like a soaking-wet sponge. A big dose of plain water–whether run through the tank or flooded from above with surface runoff–clogs soil pores with water. Clogged pores are clogged pores, whether with solids or water.

Pumping will not bring a failed drainfield back to life. If soil pores are clogged or compacted, there's no amount of water or air pumped into the ground that's gonna flush 'em out or plump 'em up again. You would have to put in a whole new drainfield, in an area that's usually already designated as the **reserve drainfield area**. Find out where yours is, because you need to protect those soil pores too.

Repairing or replacing a failed system requires a new permit, which may require a system upgrade. An expensive upgrade.

You can avoid problems by maintaining a healthy system from the beginning.

Have You Seen My Septic?

About now you might wonder exactly where it is. You're not alone here either. Over time or with property transfers they just seem to get lost down there ... somewhere. Septics used to be completely buried, *routinely*, with no access ports visible. So to inspect and pump there was a lot of digging going on–every time–or even some poking around the yard with a shovel or T-bar rod, avalanche-style.

When you find it, do yourself a favor and get risers installed to bring access up to ground level, so you or your loved ones won't have to face this treasure hunt next time. Risers look like plastic culverts, upended, rising to the surface as tall as the tank is deep (usually 1-2 ft), with the lid flush to the ground–*& don't bury the lids!* All newly installed systems should have risers built-in but you can retrofit an older system.

Because maintenance is ongoing, there will be a next time. So do yourself another favor, and once you've found it, map it!

As It Was Built: Starting in 1973, Lewis & Clark County kept records of new systems with an **as-built**, a drawing of the house footprint and property lines in relation to the septic and well. Check with the County for yours before digging blindly.

INSPECTION: *It isn't Rocket Science*

Measuring scum and sludge levels might seem to involve only a couple of rigged-out sticks, a few guidelines, a clear idea of what you're doing, and access to the tank. But as the sewage treatment plant operator you also need to check the system's components to catch early signs of developing trouble: the tank for watertightness, monitoring ports for ponded effluent, baffles for damage, valve positions for tampering, and the drainfield for seepage, soft ground, surfacing effluent, odors, or evidence of compaction. And remember you're dealing with nasty disease-carrying materials. If you own and reside in a home with a gravity system–and are still interested in inspecting the tank yourself–we'll be offering a Homeowners' Septics Clinic to learn how.

Who Does What

Traditionally, the role of the certified septic designer involves customizing a septic installation to the site limitations, and redesigning if the system has to be repaired, relocated, or replaced with a new type of system. The certified installer constructs the system based on the designer's specifications; the licensed pumper pumps the tank but is not qualified to inspect the system. In Lewis & Clark County that job falls to the maintenance specialist–specially trained and certified designers and/or installers.

The County Health Department regulates these functions by reviewing and approving sites, designs, repairs, and as-built drawings; conducting final inspections; training inspectors and homeowners; issuing all related permits and certifications.

Traditionally, the most important link in the chain has been lost, and that would be you, the homeowner. Too often, a lack of communication and understanding brought confusion, glitches, or failures to someone's little piece of paradise.

We're here to change that. Won't you join us?

Pump Now or Pay Later

There are many variables that determine the capacity and durability of your system. The need to pump varies widely with households but a *conservative, ballpark* estimate suggests pumping every 3-5 years, depending how many people use the system and HOW they use it.

But pump only when needed. It's the ticket to keeping pump-out costs down while limiting drainfield damage from not pumping soon enough.

Think you no longer need to pump that expensive, fancy new sand-filter system? Although microbial critters in the tank digest and break down about half the solids, all tanks eventually need pumping. All tanks. All.

Pumping the tank is not a stop-gap measure for existing problems–the value of pumping is preventing *FUTURE* damage to the drainfield.

HELP! *My Septic's Failing and It Can't Get Up!*

If you ignore the little signs of failure, they turn into

Great Big Flashing Neon Signs

Standing water or dampness over drainfield, especially after heavy rains.

Toilets flushing slowly.

The plunger's out, you're thinkin' Drain Cleaner.

Drains backing up into house.

Foul odors, dampness, dark-colored water, or depressions in ground above tank or drainfield.

When pumping tank, it keeps going and going and going (saturated drainfield pours back into the tank!).

It's time for **DRASTIC ACTION:**

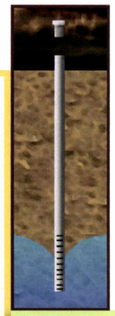
Call us and we'll help you. 447.8351

Pump tank and immediately restrict water use.

Stop wastewater flow–at least use sparingly!

It Failed Me

WHY? WHY? WHY?



- Tank needs pumping.
- System's old and the soil's "tired."
- High water use.
- Flushing trash.
- Toxic chemicals or cleaners.
- Unsuitable soils.
- High seasonal water table.
- Steep slopes.
- Tree roots.
- Clogged drainfield.
- Undersized lot.
- System too small to handle wastewater volume.
- System designed or installed wrong.
- Don't know where tank or drainfield is.
- *Folks don't know they're on a septic system!*
- TANK NEEDS PUMPING.

The №1 reason for septic failure? IMPROPER MAINTENANCE & USE!

Got Gravity?

Then you want to KEEP gravity–the simple, basic system that's easiest & cheapest to run. Because if it fails, you may have to install a new system to a newer, higher standard. A more expensive standard. Keep your gravity working well.

Why Bother?

Let's recap. Didn't you pay a lot of money to professionals so you wouldn't have to deal with this? And if it cost a small fortune for a state-of-the-art septic system, why can't you ride that thing till you die? Why is all this really necessary?

Well, **because:**

- All systems are designed to operate with routine maintenance.
- You, the system owner, are the critical link to your septic's continued success.
- It typically costs more than $10,000 to replace a failing septic with a new, alternative sewage-disposal system.
- A well-functioning system protects the health of your family, neighborhood, and environment.
- Contact with untreated human waste and wastewater can make people sick and contaminate nearby wells, groundwater, and drinking-water sources.
- It protects the financial investment you have in your home and neighborhood.
- A failed septic system can bring declining property values and delayed real estate sales until repaired or replaced.
- The County Board of Health's new rules and regulations will create new responsibilities for homeowners to maintain and inspect systems.
- The responsibility for proper, timely maintenance falls squarely on the system owner.

You are the sewage treatment plant Owner/Operator. We're here to help.